IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: §	
Bruno De Man §	
§	Group Art Unit: 2624
Serial No.: 10/731,356 §	
§	Examiner: Chu, Randolph I
Filed: December 9, 2003 §	
§	
For: METHOD AND APPARATUS §	Atty. Docket: 133642-1/YOD
FOR THE REDUCTION OF §	GERD:0068
ARTIFACTS IN COMPUTED §	
TOMOGRAPHY IMAGES §	

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AFFIDAVIT OF BRUNO KRISTIAAN BERNARD DE MAN

I, Bruno De Man, hereby state:

1.   My name is Bruno Kristiaan Bernard De Man and I reside at 7, Bonniview Court, Clifton Park, NY 12065.

2.   I am presently employed by General Electric Global Research in Niskayuna, New York, as a research scientist.

3.   I am the sole author of a paper entitled "Iterative Reconstruction for Reduction of Metal Artifacts in Computed Tomography" ("the De Man

reference") and so am intimately familiar with its contents and the techniques disclosed in it; and I am also the sole inventor of the present patent application, Serial No. 10/731,356.

4.   I hereby declare that the De Man reference does not disclose a method for reducing artifacts in image data generated by a computed tomography system comprising the steps of identifying an optimization criterion based upon the region of interest, in an image domain and iteratively adjusting the measured sinogram elements at least in the trace of the high density object in the measured sinogram data based upon the optimization criterion in the image domain, to generate corrected sinogram data.

5.   The section of the De Man reference that spans page 108 cited by the Examiner discloses an iterative approach/algorithm for estimating measured sinogram data. In this approach, an estimate of the measured sinogram elements is obtained by sub-sampling the measured sinogram. However, the disclosed approach/algorithm in De Man for estimating the measured sinogram data actually simply uses a stopping criterion in the measured sinogram domain, and not an optimization criterion in an image domain, as recited in the claims of the present patent application.

6.   Further, the De Man reference does not disclose iteratively adjusting the measured sinogram elements in the trace of the high density object based upon the optimization criterion in the image domain.

7.   Furthermore, even if the reference discloses an algorithm for estimating measured sinogram data, and the disclosed algorithm is performed for a number of iterations, the specific number of iterations that would need

to be performed, may be determined, if at all, by defining a stopping criterion, in the sinogram domain. The concept of linking the sinogram updates to an image domain cost criterion is, however, completely missing from the De Man reference.

8.   The technique I claim in the present patent application is based on reducing artifacts in image data generated by a computed tomography system by use of an optimization criterion in the image domain based upon a region of interest, and wherein the measured sinogram elements are iteratively adjusted in the trace of the high density object in the measured sinogram data to generate corrected sinogram data.

9.   In view of the above noted distinctions, I believe that the present invention, as recited in independent claims, 1, 18, 19, 21 and 22 is clearly patentable over my work summarized in the De Man reference.

10.   I declare further that all statements made herein are of my own knowledge, are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the application, and any patent issuing thereon, or any patent to which this verified statement is directed.

Dated: __12/20/07__

By: _____
Bruno Kristiaan Bernard De Man